Meet the Okuma LB15...
A flexible cost performer that will give you more ROOM for your money!

LB15
CNC Lathe

Packaged together with Okuma’s latest OSP5000L-G, the LB15 offers power, space savings and amazing cost performance in one of the most flexible machines every built to comply with the needs of the small- and medium-lot production field.

OSP5000L-G Multi-Processor CNC

The LB15. Another in the long line of Okuma CNC lathes. With machine and control built precisely for each other. And backed by Okuma’s reliable technology and worldwide service.

Another Okuma small wonder.
With room to spare (15/10 hp).
Productivity based on over 88 years of user feedback and field-tested Okuma know-how....

High rigidity, ready accessibility, excellent chip flow.... A powerful vertical 12-station turret and husky VAC spindle drive motor for maximum cutting accuracy and high productivity.... Put these benefits at the service of the easily programmed Okuma OSP5000L-G and you have a cost-performer beyond compare.

Room To Spare: Powerful VAC Spindle Drive

The VAC drive motor is both powerful and service-free, since no brush changes are necessary. The constant surface speed cutting feature assures the ideal turning conditions. And shorter cutting time, longer tool life and improved accuracy are engineered in. Full power is provided across the entire range of spindle speeds (260-4200 rpm).

Unimpaired Vision With Flat-Top Design

Operation is easier because of the convenient flat top design, ready accessibility and visibility. The flat-top arrangement means an operator can watch several machines at a time. The guard slides open easily to the left, cutting can be easily monitored, and chip flow is excellent.
Ultra-Rigid Slant Bed, Fine Chip Flow
An Okuma slant bed is engineered for exceptional stiffness for consistently accurate, heavy-duty cutting at high speeds. A huge volume of chips can be accommodated smoothly, even with heavy hogging at a fast pace. Use of the optional chip conveyor assures even easier handling from the right side of the machine.

Powerful V12 Turret For High Accuracy
The large coupling (9.45 in.) powerful clamping (7920 lb) and fast indexing (nearest path) of this husky turret provide powerful cutting with consistently high accuracy. V12 turret makes permanent set tooling possible for easier, faster setup and removal. An efficient through-the-turret coolant system is standard. Turret index speed: 0.8 sec. per position

Machine & Control Packaged Together For Far Greater Space Savings
The NC, power and hydraulic units are entirely machine-mounted so as to take up minimal floor space and make installation and moving extremely simple.

Fast 2-Axis Rapid Traverse Feature
Rapid traverse on both X and Z axes is a fast 472 ipm. Needless to say, this cuts down operation time.

Far Less Maintenance Each Day
The force-fed lubrication of ways and X and Z ball screws assures long service life and accuracy for the long term. The extra-large lube tank saves time and energy, for a daily refill is unnecessary. Furthermore, a lube monitor is standard equipped. The use of brushless motors (VAC main motor & X, Z servomotors) saves maintenance time and effort, and the safety device equipped axis drive mechanisms makes servicing exceptionally easy.
Okuma’s time-tested expertise in overall design for better finishes, greater accuracy, ease of operation and safety.

Accuracy & Durability—Okuma Hallmarks

X & Z Ways
Precision hardened and ground ways together with force-fed lubrication guarantee high operation rates and consistent accuracy over the long run.

X, Z Ball Screws
The ultraprecise ball screws employed assure ultraprecise positioning, and longer service life is guaranteed by the force-fed lubrication system.

Ultraprecise Turret Indexing
Despite the size of the turret, accuracy of indexing is within 0.00004” thanks to the ultraprecise coupling.

Operational Ease In The Okuma Tradition

Centralized Controls
Both machine and NC controls are clustered on the one panel in front of the machine within easy reach. The standard-equipped 12” color CRT display makes monitoring at a glance possible. Cost-efficient control at your fingertips.

Slant Bed Accessibility
Tooling, work setup and removal are extremely easy with the handy slant-bed design. Visibility is far greater as well.

Pedal Switch Convenience
Chuck open/close and tailstock quill advance/retract can be done by easy pedal operation.

E-Z Tape Preparation (OSP5000L-G)
LAP auto-programming, tool nose “R” compensation, color graphic CRT display, auto-chamfering, arc radius/taper angle direct programming, special fixed cycles, longitudinal and transverse thread cutting, IGF—these and more features make programming far less complicated and time-consuming than on conventional CNC lathes.

“Safety First”—An Okuma Priority
Safety features throughout are an Okuma trademark; interlocks for spindle rotation, chuck open/close, tailstock quill advance/retract, turret index, front guard with iron grillwork, power failure measures. Any required precaution has been carefully designed in from the start.

Compact, Unitized Machine & Control
The NC, power and hydraulic units are machine-mounted to squeeze everything into as small a floor space as possible. Thus, installation, maintenance and moving are facilitated.

Labour-saving Peripherals
Bar Feeder
High-performance bar feeder installations can be equipped to meet your requirements.

Tool Life Management
A spare tool is automatically indexed to replace a tool whose life has been gauged in terms of cutting time or number of workpieces.

Programmable Tailstock
Tailstock body movement and clamp/unclamp can be done automatically under tape command in terms of the given workpiece length.

Troubleshooting
Even during automatic operation, all kinds of trouble can be pinpointed: chucking, tailstock center, overload, tool breakage, dimensional errors, machine trouble.
### MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL:</th>
<th>LB15C</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOMINAL SIZE:</td>
<td>250 x 500</td>
</tr>
<tr>
<td><strong>CAPACITY</strong></td>
<td></td>
</tr>
<tr>
<td>Number of controlled axes</td>
<td>2</td>
</tr>
<tr>
<td>Swing over saddle</td>
<td>in. 15.75</td>
</tr>
<tr>
<td>Max. turning diameter</td>
<td>in. φ9.84</td>
</tr>
<tr>
<td>Max. work length</td>
<td>in. 19.69 (Chuck work: 9.06)</td>
</tr>
<tr>
<td><strong>MAIN SPINDLE:</strong></td>
<td></td>
</tr>
<tr>
<td>Spindle dia./bore dia.</td>
<td>in. φ3.94/φ2.20</td>
</tr>
<tr>
<td>Spindle nose</td>
<td>ASA A2-6</td>
</tr>
<tr>
<td>Internal taper of spindle</td>
<td>MT No. 6</td>
</tr>
<tr>
<td>Range of spindle speed</td>
<td>rpm 75-4200 (Auto. 2 ranges x Infinitely variable)</td>
</tr>
<tr>
<td><strong>CROSS-SLIDE &amp; CARRIAGE:</strong></td>
<td></td>
</tr>
<tr>
<td>Cross-slide travel (X-axis)</td>
<td>in. 6.89</td>
</tr>
<tr>
<td>Longitudinal travel (Z-axis)</td>
<td>in. 20.47</td>
</tr>
<tr>
<td>Cutting feedrate</td>
<td>ipr 0.0001-40.0000 (Both axes)</td>
</tr>
<tr>
<td>Rapid-traverse speed</td>
<td>ipm 472 (Both axes)</td>
</tr>
<tr>
<td>Servomotor (Brushless)</td>
<td>hp Brushless, X: 2.0, Z: 3.2</td>
</tr>
<tr>
<td><strong>TURRET:</strong></td>
<td></td>
</tr>
<tr>
<td>Type and No. of tool stations</td>
<td>Auto. vert. V12</td>
</tr>
<tr>
<td><strong>HYDRAULIC TAILSTOCK:</strong></td>
<td></td>
</tr>
<tr>
<td>Quill dia./stroke</td>
<td>in. φ3.54/φ4.72</td>
</tr>
<tr>
<td>Center taper</td>
<td>MT No. 5</td>
</tr>
<tr>
<td><strong>MAIN MOTOR:</strong></td>
<td>hp VAC 15/10 hp (Variable speed AC drive)</td>
</tr>
<tr>
<td><strong>FLOOR SPACE:</strong></td>
<td>in. 73 x 108</td>
</tr>
<tr>
<td><strong>NET WEIGHT:</strong></td>
<td>lb 9900 (without tailstock spec: 9240)</td>
</tr>
</tbody>
</table>

* Big bore spindle: (option)

### OPTIONAL ACCESSORIES & SPECIFICATIONS

- Chip conveyor
- Chip bucket
- Chip pan
- Programmable tailstock (tow-along type)
- Bar feeder
- Big bore spindle

| Spindle nose | ASA A2-6 |
| Spindle dia./bore dia. | 4.72/3.15 |
| Internal taper | φ3.54 x 1/10 taper |
| Range of spindle speed | 55 to 3000 rpm |
### STANDARD KIT

<table>
<thead>
<tr>
<th>MACHINE SPECIFICATIONS</th>
<th>MODEL</th>
<th>LB15C</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTOR: VAC 15/10 hp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPINDLE SPEED RANGE: 75-4,200 rpm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TURRET: V12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HYDRAULIC TAILSTOCK: Dead center type (MT No. 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCESSORIES:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic power unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coolant supply equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full enclosure chip &amp; coolant shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work lamp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lube monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation washers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levelling jack screws</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine lifting hooks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revolving center (MT No. 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOOLING:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic power chuck with soft jaws</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>OD toolholder, Type I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>OD toolholder, Type II</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ID toolholder base, H40</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Boring bar sleeve, 3/4-H40</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1-H40</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Drill sleeve, MT No. 3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Setting caliper</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### MACHINED WORKPIECES

- **Machine**: LB15C
- **Control**: OSP5000L-G
- **Part**: Gear
- **Material**: Carbon steel, JIS S50C (forging)
- **Removal amount**: 0.06-0.12 in.
- **Machining time**: 1.6 min

![Machined Workpiece Diagram 1](image1)

- **Machine**: LB15C
- **Control**: OSP5000L-G
- **Part**: Collar
- **Material**: Cast iron, JIS FCD45
- **Removal amount**: 0.12-0.20 in.
- **Machining time**: 4.5 min

![Machined Workpiece Diagram 2](image2)

- **Machine**: LB15C
- **Control**: OSP5000L-G
- **Part**: Shaft
- **Material**: Chromium molybdenum steel, JIS SCM17 (forging)
- **Removal amount**: 0.12 in.
- **Machining time**: 3.5 min

![Machined Workpiece Diagram 3](image3)

- **Machine**: LB15C
- **Control**: OSP5000L-G
- **Part**: Shaft
- **Material**: Chromium molybdenum steel, JIS SCM17 (forging)
- **Removal amount**: 0.12 in.
- **Machining time**: 4.4 min

![Machined Workpiece Diagram 4](image4)
TOOLING SYSTEM

- MT No. 1-H40
- MT No. 2-H40
- MT No. 3-H40
- MT No. 4-H40

- For ID TURNING
  - φ3/8-H40
  - φ1/2-H40
  - φ5/8-H40
  - φ3/4-H40
  - φ1-H40
  - φ1-1/4-H40

- OD toolholder Type I
- OD toolholder Type II

- OD tool 1 x 1
- Setting caliper

- Compatible part available on market

WORKING RANGE

- 8" Power chuck
- X-axis travel 3.82
- Y-axis travel 1.81
- Z-axis travel 2.76
The OSP5000L-G CNC is the culmination of Okuma’s field-tested experience in building over 35,000 control systems for its sophisticated machine tool applications. Incorporating a high-performance multiprocessor system, this computerized numerical control offers all of the advantages of the previous NC units plus unique functions, software handling of various machine controls, and a choice of sophisticated NC functions to comply with user requirements.

“Made For Each Other” Machine & Control
The Okuma OSP is developed precisely for an Okuma machine tool. It is not another machine-mounted control, but an Okuma-engineered control built for an Okuma machine. And reliable service for both machine and control is as close as your phone from a single source: Okuma.

Flexible CNC Software—Never Obsolete
Expandable is the word. You can add functions long after the OSP5000L-G has been installed. Or make changes very easily. And since the software and hardware are handled separately, maintenance could hardly be simpler.

Fully Enclosed—Total Cooling System
No matter how advanced the electronics, dust and temperature variations can cause havoc with operation. That goes for the spindle control modules and conventional relay circuits as well as NC circuitry. This is why Okuma uses a full enclosure and complete interior cooling system. Reliability is also assured by the waterproof, dustproof mylar sheath enclosing the CNC operation panel keyboard (IEC, IP55 compliant).

Okuma’s Absolute Position Encoder (Patented)
The unique digital encoder incorporated enables you to resume an interrupted sequence (power failure or fluctuation), without zero return operation. Mid-auto manual operation is possible. No error accumulation.

Brushless Servomotor
The use of a brushless servomotor (BL-motor) developed by our own technology means high speed and accuracy in positioning and interpolation. Since it uses no brushes, inspection and replacement of brushes necessary for conventional DC motors are no more required.

Easy to Operate
The large 12” CRT (standard) has made the operation extremely easy. The function keys indicate possible operations on the CRT from the selected mode to free the operator from complicated operation sequences. Color graphic CRT is standard-equipped for easy program checks through animated tool path display.
Multi-Task Processing
Changes in a program can be made during actual cutting by use of the CRT display. Machine downtime is minimized because the next program can be read into the memory or even punched out while cutting proceeds.

Schedule Programming
The cutting order for several programs can be commanded so as to obtain continuous cutting. This is especially effective when the loader, robot and other peripherals are used.

File Management
Cutting programs can be ‘filed’ by grouping them according to workpiece type or machining pattern. Thus management of stored data is easy.

Self-Diagnostics
The OSP provides immediate CRT display of not only NC malfunctioning but trouble with programs or operation as well. Troubleshooting and maintenance are extremely simple.

Sequence Restart
No machine motion is wasted when a sequence is interrupted, because you can resume wherever you left off, thanks to this cost-efficient function.

Auto Tool Offset Calculation
Just “key in” the values to obtain tool position compensation automatically. No bothersome offset calculations. Easy part size readouts and tool wear compensation.

Automatic Power Shutoff (Optional)
This function shuts off the power automatically when the calculated not actually cutting time exceeds the preset time.

Calendar Timer (Optional)
Power supply to the OSP5000L-G is automatically turned on and off by the signal from the calendar timer. Warming up without operator’s attendance is possible.

Auto Any-Angle Chamfering (Optional)
To chamfer (C-chamfering or R-chamfering) corners having any angle by normal programming (G01, G02 or G03), complicated calculations are required. However, by using this function, programming is simple and easy for smooth and accurate machining.

Arc Radius Direct Programming
The arc end point and arc radius are designated to perform circular interpolation automatically.

Taper Angle Direct Programming
For taper cutting automatically, the angle from the Z-axis and the end point (X or Z) are designated.

Advanced Thread Cutting Function
All kinds of thread cutting functions can be commanded: special cycles for cutting longitudinal or transverse thread by designating one block at a time, uniform thread cutting feeds, zigzag feeds and screw threads.

Special Fixed Cycles
Thread cutting, groove cutting or drilling cycles can be commanded one sequence at a time. Programming is that much simpler.

Auto-programming Function (LAP)
LAP programming makes it easy for newcomers to use NC tools. Only the finish dimensions are needed. The rest is automatic with LAP.

Tool Nose “R” Compensation
Programming compensation for the tool nose can be very complicated, but Okuma can help you do it automatically. Compensation for chamfering, taper cuts, and arcs is possible also.

Large Tape Storage: 16,800 ft (Optional)
Tape storage: standard, 200 ft. But up to 16,800 ft is available as required.

User Task 2 Function
This function enables the user to employ simple commands to perform his own special cycles and subprograms as desired.

Interactive Color Graphic MDI Function (IGF)
No need to learn a special program language, On-the-spot operator/CRT display interaction enables programming straight from the drawings. Inputs during actual cutting are also possible, using the CRT.

Many Automated Peripherals
A full array of peripherals can be incorporated and controlled as a total system by the Okuma OSP5000L-G: automatic work/tool gauging systems, tool life management, robot, loader, bar feeder, programmable tailstock, etc.
OSP5000L-G CNC SPECIFICATIONS

Standard Specifications

CONTROL: X, Z simultaneous 2-axis control. Linear and circular interpolation.

POSITION DETECTION: Closed loop system with full range absolute position feedback by OSP position encoder (no zero return required).

TAPE FORMAT: N4, G3, X+44, Z+44, I+44, K+44, F+44, S4, T6, M3

TAPE READER: Photoelectric bi-directional tape reader, 200 cps.

PROGRAMMING: Combined use of absolute/incremental programming; ISO (R 840) or EIA (RS-244-A) codes.

MINIMUM INPUT INCREMENT: 0.0001 in. for both X and Z axes.

MAXIMUM INPUT DIMENSION: ±3937.0078 in. (8-digit decimal number).

PROGRAMMABLE UNIT: Selectable by parameter in 1 or 0.0001 in. units.

DECIMAL POINT DATA INPUT: In any selected unit system (1 or 0.0001 in.), data can be entered with a decimal point.

INCH/METRIC SWITCHABLE: Inch or metric system can be set by parameter.

FEED FUNCTION: Rapid traverse: 472 ipm for both X and Z axes with automatic acceleration/deceleration.

Cutting feedrate: Max 472 ipm for both X and Z axes with automatic acceleration/deceleration.

Override: Feedrate override from 0 to 200% in 13 steps (also used for manual jog feed override).

Dwell: 0.01 to 99999.99 sec.

TOOL FUNCTION: Tool selection: 12 stations, 1st and 2nd digits following T command. Shortest path turret indexing possible.

Tool offset selection: 32 pairs. Max offset value: ±3937.0078 in.

Automatic tool offset calculation: Tool offsets automatically calculated from direct input of measurements/tool wear amounts.

TOOL NOSE RADIUS COMPENSATION: Automatic correction of tool nose radius error on any straight/curved cuts.

THREAD CUTTING FUNCTION: Thread lead (F): 0.0001 to 40.0000 in. Thread lead command less than 0.0001 in. possible.

Command of number of threads: Specify number of threads by J codes. Actual thread lead is F/J.

Fixed thread cutting cycle: G33; Longitudinal fixed thread cutting. G32; Transverse fixed thread cutting. Straight, taper, and variable pitch thread cutting. M23; Chamfering ON. M22; Chamfering OFF. Chamfering amount programmable. Shift of threading path start point. Feed hold during thread cutting.

COMPOUND FIXED CYCLES: G34 and G35.

Thread cutting cycle: Creates several G32 or G33 paths in one block. Grooving cycle program in one sequence.

Drilling cycle program in one sequence.

LATHE AUTO-PROGRAMMING FUNCTION (LAP): Allows roughing and finishing cycles in bar and copy turning from final workpiece dimensions. Allows both longitudinal and face cutting.

Allows cutting condition changes during roughing.

Allows various patterns of thread cutting cycles: Cutting on one side of the tool, zigzag infeeding, constant stock removal.

MULTI-TASK PROCESSING: Tape store, edit, and punchout while machining.

DISPLAY FUNCTION: 12" color graphic CRT display: Animated tool path, actual position, program, block data, check data, alarm, and operation guide displayed on screen.

Status indication: Operation conditions monitored by six LEDs.

MANUAL FUNCTIONS: Spindle CW/jog/CCW, turret index, coolant ON/OFF, manual X- and Z-axis jog feed, manual pulse feed by handwheel in magnifications (x1, x10, x50).

MISCELLANEOUS FUNCTIONS: Cursor advances to a specified sequence number in the selected program.

SEQUENCE NUMBER SEARCH: Interrupts automatic operation for manual operation and returns to interrupted position automatically.

PROGRAM OPERATIONS: Quick and easy selection from directory without program name entry.

PROGRAM SELECTION: Screen editor simplifies program editing on the CRT.

Tape read/verification, output of part program, dating, display of program files, deletion & protection of specified files, sequence number arrange.

Tape storage capacity: 200 ft. (24000 ch) tape length.

One part program capacity: 100 ft. (12000 ch) tape length.
<table>
<thead>
<tr>
<th>MEMORY MODE OPERATION:</th>
<th>Allows tapeless operation by part program stored in the memory. 200 ft (24,000 ch) tape length memory capacity is standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC RADIUS DIRECT PROGRAMMING:</td>
<td>Circular interpolation by commanding radius (L) and arc end point (X &amp; Z).</td>
</tr>
<tr>
<td>AUTOMATIC Chamfering:</td>
<td>Chamfering (straight or arc) by simple commands.</td>
</tr>
<tr>
<td>TAPER ANGLE DIRECT PROGRAMMING:</td>
<td>Linear interpolation by commanding the X or Z value (taper end point) and the angle from the Z-axis.</td>
</tr>
<tr>
<td>FEEDRATE COMMAND:</td>
<td>ipr and/or ipm feedrate selection by G codes.</td>
</tr>
<tr>
<td>SCHEDULE PROGRAMMING:</td>
<td>Scheduled sequential running of stored multiple programs.</td>
</tr>
<tr>
<td>PROGRAMMED ZERO OFFSET:</td>
<td>Zero offset by G code.</td>
</tr>
<tr>
<td>SPINDLE FUNCTION:</td>
<td>Direct spindle rpm command: 4-digit S command.</td>
</tr>
<tr>
<td></td>
<td>Constant cutting speed control: Maintained at specified constant cutting speed.</td>
</tr>
<tr>
<td></td>
<td>Spindle speed override: In 50 to 200% range.</td>
</tr>
<tr>
<td></td>
<td>Max spindle speed limitation: To set high rpm limit.</td>
</tr>
<tr>
<td>SELF-DIAGNOSTIC FUNCTIONS:</td>
<td>Program, operation, machine, and control system are constantly self checked.</td>
</tr>
<tr>
<td>DATA SETTING:</td>
<td>Zero offset, tool offset, travel limit, chuck barrier, droop control, and other data.</td>
</tr>
<tr>
<td>USER TASK 1:</td>
<td>GOTO and IF statements, arithmetic operations, extensive address characters, common variables, local variables and system variables.</td>
</tr>
<tr>
<td>USER TASK 2:</td>
<td>Subprograms: CALL, RTS, MODIN, MODOUT, READ/WRITE, and GET/PUT statements.</td>
</tr>
<tr>
<td></td>
<td>Mathematical functions and logs; SIN, COS, TAN, SQRT, ABS, OR, AND, etc.</td>
</tr>
<tr>
<td></td>
<td>(I/O variables also available: Effective for signal transmission between OSP and peripherals.)</td>
</tr>
<tr>
<td>POWER SAVING:</td>
<td>Energy-saving of peripherals in an alarm state or completion of an auto cycle.</td>
</tr>
<tr>
<td>AUTOMATION, PERIPHERAL FUNCTIONS:</td>
<td>FACIT punch interface (for 8-bit parallel or RS-232-C).</td>
</tr>
<tr>
<td></td>
<td>Chuck auto open/close by M codes (with chuck grip confirmation).</td>
</tr>
<tr>
<td></td>
<td>Tailstock quill advance/retract by M codes.</td>
</tr>
<tr>
<td></td>
<td>Lube monitor.</td>
</tr>
<tr>
<td>INTERACTIVE COLOR GRAPHIC MDI FUNCTION (IGF):</td>
<td>Simple programming by direct input from part drawing, at the machine.</td>
</tr>
</tbody>
</table>

Optional Specifications

1. Interface for TELETYPET punch/printer.
3. Chuck pressure HIGH/LOW selection by M codes.
4. Tailstock quill pressure HIGH/LOW selection by M codes.
5. Front door auto OPEN/CLOSE by M codes.
6. Air blower ON/OFF by M codes.
7. Operation end lamp (yellow rotating beacon): Goes on when M00, M01, M02 or M30 is executed.
8. Alarm lamp (red rotating beacon): Turns on when any alarm occurs.
10. Work counter: Activated each time M02 is read.
11. NC operation indication: Machined workpieces and operation time are counted and displayed on the CRT.
12. Cycle time calculation: Calculates the time required for executing a machining program without actual machining.
13. Tool life management: Carries out auto tool indexing when the tool service life is expired.
14. Spindle orientation: Stops the spindle at a desired position (pin, brake or no brake type).
15. Cycle time reduction.
16. Auto work gauging.
17. Auto tool gauging (Touch Setter).
18. Tape storage capacity: 525, 1050, 2100, 4200, 8400, 12600, or 16800 ft tape lengths.
19. One part program capacity: 200, 525, 1050, or 2100 ft tape lengths.
20. Auto any-angle chamfering: Chamfering corners having any angle by simple programming.
21. Load monitor: Checks the current flowing through the X- and Z-axis drive motors.
22. External program selection: Required program can be selected using external signals.
23. Calendar timer: Automatic power ON/OFF at specified times/dates.
24. Automatic power shut-off: Cuts off power at the end of a schedule operation or the end of a program.
25. Floppy disk for reading and writing of part programs.
26. DNC linkage.
27. Robot, loader or bar feeder interface, and other functions . . . . . Contact your Okuma representative.
Specifications, illustrations and descriptions in this catalog are subject to change without notice.